

CLAIMS

What is claimed is:

1 1. A surgical apparatus comprising:

2 an elongated cannula having a lumen extending therein between proximal and
3 distal ends;

4 a retractor disposed to slide within the lumen to extend a distal end thereof beyond
5 the distal end of the cannula;

6 an angling device attached near the distal end of the retractor and extending within
7 the cannula toward the proximal end thereof for selectively deflecting the distal end of the
8 retractor during extension thereof away from a central axis of the cannula in response to
9 manipulation of the angling device near the proximal end of the cannula.

1 2. The surgical apparatus according to claim 1 in which the angling device includes a
2 tension member extending within the cannula from attachment to the retractor beyond the
3 distal end of the cannula, to a handle disposed near the proximal end of the cannula for
4 selectively exerting tension on the retractor to deflect a portion of the retractor extended
5 beyond the distal end of the cannula in response to manual pull applied to the handle
6 relative to the cannula.

1 3. The surgical apparatus according to claim 2 including an auxiliary lumen
2 extending within the cannula between distal and proximal ends thereof; and
3 the tension member extends through the auxiliary lumen.

1 4. The surgical apparatus according to claim 2 in which the distal portion of the
2 retractor is resiliently flexible for deflection in response to pull exerted thereon by the
3 tension member.

1 5. The surgical apparatus according to claim 2 in which at least the distal portion
2 includes a resiliently flexible support that is slidably disposed within the lumen and that
3 includes a cradle attached at a distal end thereof.

1 6. The surgical apparatus according to claim 5 in which the cradle is disposed to
2 engage a vessel structure for selectively displacing the vessel structure in response to
3 tensile force exerted on the retractor through the tension member attached thereto.

1 7. A method for selectively displacing a vessel structure using an elongated cannula
2 including a retractor disposed at the distal end of the cannula for engaging the vessel
3 structure, the method comprising the steps for:

4 advancing the distal end of the cannula to a location adjacent a vessel structure;
5 engaging the vessel structure with the retractor; and
6 selectively deflecting the retractor to displace the vessel structure.

1 8. The method according to claim 7 in which the retractor includes an angling device
2 attached to the retractor and extending in the cannula between distal and proximal ends
3 thereof, the method further comprising the step for:

4 selectively manipulating the angling device near the proximal end of the cannula
5 to deflect the retractor and displace the vessel structure engaged therewith at the distal
6 end of the cannula.

1 9. The method according to claim 8 in which the angling device includes a tension
2 member attached to the retractor and to a handle near the proximal end of the cannula, the
3 method further comprising the step for:
4 manually manipulating the handle to exert deflecting force on the retractor
5 through the tension member.